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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,593	08/18/2005	Stuart Charles Wray	038665.56183US	4830

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EXAMINER	
CRUTCHFIELD, CHRISTOPHER M	
ART UNIT	PAPER NUMBER
2419	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/532,593	WRAY ET AL.	
	Examiner	Art Unit	
	Christopher Crutchfield	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Office Action

Obviousness Rejection

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. **Claims 1 and 3** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Odom* (Odom, Cisco VOIP Call Admission Control, August 2001, Pages 1-26) in view of *Komatsu*, et al (US Patent No. 6,914,900 B1).

Regarding Claim 1, *Odom* discloses a method of call admission control for a continuous stream of data in packet switched networks (Page 1, Second Paragraph) including at least two local area networks (*Odom,* Page 4, Figure 4 and Fourth Paragraph) that communicate with one another across a connecting network (Page 4, Figure 4, WAN), wherein call admission control is performed between the two local area networks (*Odom,* Page 4, Last Paragraph).

Odom fails to disclose a method further comprising determining a packet loss rate of a previous calls from a first local area network to a second local area network and deciding to drop a call attempt based on the packet loss rate of previous calls. In the same field of endeavor, *Komatsu* discloses a method further comprising determining a packet loss rate of a previous call from a first local area network to a second local area network and deciding to drop a call attempt based on the packet loss rate of previous call (Column 5, Lines 5-20, Column 7, Lines 15-27 and Column 3, Line 24). (The system of *Komatsu* discloses a system that maintains the packet loss rate from a previous calls between two endpoints based on the time of day. [Column 5, Lines 5-20, Column 6, Line 65 to Column 7, Line 6 and Column 7, Lines 15-27]. The packet loss rates may be based on statistical analysis of the loss rates of multiple calls during the time periods [Column 12, Lines 29-34]. When a call is made, the system references the aggregated loss statistics for that IP endpoint [i.e. local network] from the current endpoint and if the loss rate is acceptable, the call is admitted. If the loss rate is unacceptable, the user is notified and may drop the call [Column 3, Line 24].)

Therefore, since *Komatsu* discloses dropping calls based on previous call performance, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the historic admission control of *Komatsu* into the teachings of *Odom* to create a method of call admission control for a continuous stream of data in packet switched networks including at least two local area networks that communicate with one another across a connecting network, the method comprising determining a packet loss rate of a previous call from a first local area network to a second local area network and deciding to drop a call attempt based on the packet loss rate of a previous call. The historic admission control of *Komatsu* can be combined with the system of *Odom* by having the system of *Odam* record and average packet loss statistics for each path between endpoints and then perform admission control on incoming calls based on the packet loss rate of the previous calls, as taught by *Komatsu*. The motive to combine is provided by *Komatsu* and is to reduce the delay in setting up a new call (Column 5, Lines 5-20).

Regarding claim 3, *Odom* discloses a method of call admission control for a continuous stream of data in packet switched networks (Page 1, Second Paragraph) including at least two local area networks (*Odom,* Page 4, Figure 4 and Fourth Paragraph) that communicate with one another across a connecting network (Page 4, Figure 4, WAN) the method comprising determining current packet loss rate for calls from the first local area network to the second local area network (Odom, Page 19, SAA Protocol and Calculated Planned Impairment Value). (The SAA protocol sends packets from the SAA client on the gateway device in the first LAN [Odom, Figure 4] to the server gateway in the other network. It then measures the packet loss rate to determine the packet loss rate of calls between the two networks. This value, along with others is used to perform client access control.)

Odom fails to disclose a method comprising determining a packet loss rate of previous calls from a first local area network to a second local area network. In the same field of endeavor, *Komatsu* discloses a method comprising determining a packet loss rate of previous calls from a first local area network to a second local area network (Column 5, Lines 5-20, Column 7, Lines 15-27 and Column 3, Line 24). (The system of *Komatsu* discloses a system that maintains the packet loss rate from a previous calls between two endpoints based on the time of day. [Column 5, Lines 5-20, Column 6, Line 65 to Column 7, Line 6 and Column 7, Lines 15-27]. The packet loss rates may be based on statistical analysis of the loss rates of multiple calls during the time periods [Column 12, Lines 29-34]. When a call is made, the system references the aggregated loss statistics for that IP endpoint [i.e. local network] from the current endpoint and if the loss rate is acceptable, the call is admitted. If the loss rate is unacceptable, the user is notified and may drop the call [Column 3, Line 24].)

Therefore, since *Komatsu* discloses call admission based on previous call performance, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the historic admission control of *Komatsu* into the teachings of *Odom*. The historic admission control of *Komatsu* can be combined with the system of *Odom* by having the system of *Odam* record and average packet loss statistics for each path between endpoints and then perform admission control on incoming calls based on the packet loss rate of the previous calls, as taught by *Komatsu*. The motive to combine is provided by *Komatsu* and is to reduce the delay in setting up a new call (Column 5, Lines 5-20).

Odom fails to disclose deciding to drop the call attempt based on the current packet loss rate (as disclosed by *Odom,* Page 19, SAA Protocol and Calculated Planned Impairment Value*) and* the success rates of previous calls (as disclosed by *Komatsu*, et al., Column 5, Lines 5-20, Column 7, Lines 15-27 and Column 3, Line 24). However, in light of the disclosure of *Odom, et*

al. of a compound call admission threshold consisting of latency and packet loss (*Odom,* Page 19, SAA Protocol and Calculated Planned Impairment Value), it would have been obvious to a person of ordinary skill in the art at the time of the invention to create a new compound admission control threshold consisting of packet loss and the success rate of previous calls. A compound admission control threshold can be modified/implemented into the VOIP call admission control network of *Odom, et al.* by having the gateway/call manager of *Odom, et al.* (*Odom,* Figure 4, Call Manager/Gateway) calculate both the success rate of previous calls (see claim 1, supra) and the current packet loss rate (see claim 2, supra) and determining the admission control threshold based on both rates. Therefore, a call admission control system taking into account both the success rate of previous calls and the current packet loss rate of calls would have been obvious because the substitution of the known element of a calculation based on call latency for the known element of calculation based on the success rate of previous calls in a compound call control algorithm would have yielded the predictable results to one of ordinary skill in the art at the time of the invention of a compound call admission control algorithm that took into account both the success rate of previous calls and the current packet loss rate of calls, thereby providing a robust call admission control algorithm based on multiple metrics.

5. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over *Odom* (Odom, Cisco VOIP Call Admission Control, August 2001, Pages 1-26) in view of *Hucaby* (Dave Hucaby and Steve McQuerry, Cisco Field Manual: Router Configuration, Cisco Press, 14 December 2001, Chapter 12-2, Pages 18-19).

Regarding claim 2, *Odom* discloses a method of call admission control for a continuous stream of data in packet switched networks (Page 1, Second Paragraph) including at least two local area networks (*Odom,* Page 4, Figure 4 and Fourth Paragraph) that communicate with one another across a connecting network (Page 4, Figure 4, WAN) the method comprising the steps of:

a. Determining current packet loss rate for calls from the first local area network to the second local area network (Odom, Page 19, SAA Protocol and Calculated Planned Impairment Value). (The SAA protocol sends packets from the SAA client on the gateway device in the first LAN [Odom, Figure 4] to the server gateway in the other network. It then measures the packet loss rate to determine the packet loss rate of calls between the two networks. This value, along with others is used to perform client access control.)

b. Deciding to drop the call attempt based on the current packet loss rate (Odom, Page 19, SAA Protocol and Calculated Planned Impairment Value). (See Supra in [a])

c. Transmitting a burst of trial data from a first node in the first local area network through the connecting network to a second node in the second local area network (Odom, Page 19, SAA Protocol). The SAA protocol sends packets from the SAA client on the gateway device in the first LAN [Odom, Figure 4] to the server gateway in the other network [Odom, Page 19, SAA Protocol].)

d. Reflecting the burst of trial data received at the second node back to the first node (Odom, Page 19, SAA Protocol).

e. Receiving the reflected burst of trial data at the first node through the connecting network (Odom, Page 19, SAA Protocol).

f. Comparing the reflected burst of trial data to the transmitted burst of trial data to determine whether transmission of a continuous stream of data can be initiated from the first node in the first local area network to the second node in the second local area network (Odom, Page 19, SAA Protocol, Calculating Planned Impairment Value). (It is noted that in order to determine packet loss in a ping style test [Odom, Page 18, SAA Probes Versus Pings], the reflected burst of trial data must be analyzed and compared to the data sent to determine if a portion of the burst was lost [i.e. if packet loss occurred].)

g. The burst of trial data comprises a plurality of packets having a size that corresponds to packets that are to be sent if the call is completed (Page 19, SAA Protocol). (The SAA protocol may also send probe packets based on the packet size of the codec to be used in the call using RTP headers to create a packet identical in size to one that would be used in a real voice conversation. The priority [i.e. IP precedence] of the packets may also be set.)

Odom fails to disclose setting the precedence of VoIP probes to more realistically reflect the precedence of real VoIP packets. In the same field of endeavor, *Hucaby* discloses setting

the precedence of VoIP probes to more realistically reflect the precedence of real VoIP packets (Pages 11-12, 4 (d) - set the jitter parameters). (The system of *Hucaby* discloses setting the precedence of the probe packets to a more realistic setting to measure the conditions that the voice packets actually experience and notes that the usual precedence of a VoIP packet is 5.)

Therefore, since *Hucaby* suggests altering the precedence of a probe packet to more realistically measure network conditions for VoIP packets, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the realistic precedence of *Hucaby* into the teachings of *Odom*. The realistic precedence of *Hucaby* can be combine with the system of *Odom* by setting the priority of the trial burst packets to more closely match the priority of VoIP Packets. The motive to combine is provided by *Hucaby* and is to more accurately simulate the conditions of real VoIP packets (Pages 11-12, 4 (d) - set the jitter parameters).

Odom as modified by *Hucaby* fails to explicitly disclose a method wherein the burst of trial data comprises a plurality of packets having a priority that corresponds to packets that are to be sent if the call is completed. However, in light of the disclosure by *Hucaby* that probe packets should be set to a realistic precedence with respect to that of a true VoIP packet (Pages 11-12, 4 (d) - set the jitter parameters), it would have been obvious to a person of ordinary skill in the art at the time of the invention to set the precedence of the trial burst packets to match that of the VoIP packets to be transmitted. Exact precedence matching can be combined with the system of *Odom* by setting the precedence of the trial burst packets to identically match that of the later VoIP conversation. The motive to combine is provided by *Hucaby* and is to provide a maximally realistic simulation of the conditions experienced by VoIP packets by sending a trial burst that exactly matches the size and precedence of a VoIP conversation.

6. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over *Odom* (Odom, Cisco VOIP Call Admission Control, August 2001, Pages 1-26) and *Komatsu*, et al (US Patent No. 6,914,900 B1) as applied to claim 3 and further in view of *Hucaby* (Dave Hucaby and Steve McQuerry, Cisco Field Manual: Router Configuration, Cisco Press, 14 December 2001, Chapter 12-2, Pages 18-19).

Regarding claim 6, *Odom* discloses a method wherein the step of determining current packet loss rate comprises:

a. Transmitting a burst of trial data from a first node in the first local area network through the connecting network to a second node in the second local area network (Odom, Page 19, SAA Protocol). The SAA protocol sends packets from the SAA client on the gateway device in the first LAN [Odom, Figure 4] to the server gateway in the other network [Odom, Page 19, SAA Protocol].)

d. Reflecting the burst of trial data received at the second node back to the first node (Odom, Page 19, SAA Protocol).

e. Receiving the reflected burst of trial data at the first node through the connecting network (Odom, Page 19, SAA Protocol).

f. Wherein the step of determining to drop a call attempt comprises the reflected burst of trial data to the transmitted burst of trial data to determine whether transmission of a continuous stream of data can be initiated from the first node in the first local area

network to the second node in the second local area network (Odom, Page 19, SAA Protocol, Calculating Planned Impairment Value). (It is noted that in order to determine packet loss in a ping style test [Odom, Page 18, SAA Probes Versus Pings], the reflected burst of trial data must be analyzed and compared to the data sent to determine if a portion of the burst was lost [i.e. if packet loss occurred].)

g. Wherein the burst of trial data comprises a plurality of packets having a size that corresponds to packets that are to be sent if the call is completed (Page 19, SAA Protocol). (The SAA protocol may also send probe packets based on the packet size of the codec to be used in the call using RTP headers to create a packet identical in size to one that would be used in a real voice conversation. The priority [i.e. IP precedence] of the packets may also be set.)

Odom fails to disclose setting the precedence of VoIP probes to more realistically reflect the precedence of real VoIP packets. In the same field of endeavor, Hucaby discloses setting the precedence of VoIP probes to more realistically reflect the precedence of real VoIP packets (Pages 11-12, 4 (d) - set the jitter parameters). (The system of Hucaby discloses setting the precedence of the probe packets to a more realistic setting to measure the conditions that the voice packets actually experience and notes that the usual precedence of a VoIP packet is 5.)

Therefore, since Hucaby suggests altering the precedence of a probe packet to more realistically measure network conditions for VoIP packets, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the realistic precedence of Hucaby into the teachings of Odom. The realistic precedence of Hucaby can be combine with the system of Odom by setting the priority of the trial burst packets to more closely

match the priority of VoIP Packets. The motive to combine is provided by Hucaby and is to more accurately simulate the conditions of real VoIP packets (Pages 11-12, 4 (d) - set the jitter parameters).

Odom as modified by Hucaby fails to explicitly disclose a method wherein the burst of trial data comprises a plurality of packets having a priority that corresponds to packets that are to be sent if the call is completed. However, in light of the disclosure by Hucaby that probe packets should be set to a realistic precedence with respect to that of a true VoIP packet (Pages 11-12, 4 (d) - set the jitter parameters), it would have been obvious to a person of ordinary skill in the art at the time of the invention to set the precedence of the trial burst packets to match that of the VoIP packets to be transmitted. Exact precedence matching can be combined with the system of Odom by setting the precedence of the trial burst packets to identically match that of the later VoIP conversation. The motive to combine is provided by Hucaby and is to provide a maximally realistic simulation of the conditions experienced by VoIP packets by sending a trial burst that exactly matches the size and precedence of a VoIP conversation.

Response to Arguments

1. Applicant's arguments with respect to claims 1, 2, 3 and 6 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Crutchfield whose telephone number is (571) 270-3989. The examiner can normally be reached on Monday through Friday 8:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Ryman can be reached on (571) 272-3152. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher Crutchfield/
Examiner, Art Unit 2419
12/2/2008

/Daniel J. Ryman/
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